19 FEDERAL REPUBLIC OF GERMANY



GERMAN PATENT OFFICE

12 UTILITY MODEL

U1

11 Register number

G 8 ... [illegible – 6?] 04 004.9

51 Main class

E04 F 15/22

Secondary class(es)

E 04 F 15/02

22 Application date

2-14-86

47 Registration date

4-30-86

43 Published in the

Patentblatt

[= Patent Journal]

6-12-86

54 Designation of subject matter

[matter obliterated here]

Steinhagen, DE

74 Name and residence of the representative

Grad. Engin. A. Stracke, Grad. Engin. K. Loesenbeck,

Patent Attorneys; 4800 Bielefeld

It turns out in practice that the use of such interlocking [positive-locking, form-fit, form-closed] parts is time-consuming and difficult when relocating dismountable [i.e., that can be disassembled] sport floor coverings since the engaging of the pins in the plate sleeves requires that they be precisely placed in order to fit. A simple insertion of the running- and pressure distribution plates can no longer take place even upon the slightest deformation of the connection plates, as can absolutely occur during the disassembly of a sport floor covering and the subsequent storage of the individual parts, so that a reworking of the connection plate in question is unavoidable.

Even the introduction of the spring, that is required after the runningand pressure distribution plates have been placed on the connection plates, is an additional work step that of course requires a corresponding amount of time and consequently produces an expense.

Another disadvantage is the storage when the sport floor covering is not in use since interlocking parts with different shapes must be stored.

In addition to the cited disadvantages regarding the relocating and storage, the manufacture of the known sport floor covering also entails problems since not only the pins provided for it must be fixed in the connection plates of the interlocking parts individually and in such a manner that they precisely fit but the introduction of the sleeves into the running-and pressure distribution plates is also only possible with a relatively high

manufacturing cost. Consequently, the manufacturing cost is naturally rather high.

The present innovation therefore has the problem of designing a sport floor covering of the generic type in such a manner that it can be economically produced, can be assembled and disassembled simply and rapidly and its interlocking parts can be stored in a simple manner and are insensitive to damage.

The innovation solves this problem in that each interlocking part consists of a profile track formed from two flanges running with an interval to one another and parallel to the base of the running- and pressure distribution plates and connected to one another by a web. A bend is provided on at least one flange on each longitudinal edge which bend faces in the direction of the other flange and the running- and pressure distribution plates comprise receiving grooves with a corresponding cross section into which grooves the profile tracks can be inserted.

A very rapid relocating and/or disassembly of the sport floor covering is now possible by means of the interlocking parts designed in this manner. It is especially advantageous that damage to the interlocking parts, as was previously possible even under a slight load, is now excluded. This not only creates the possibility of a more rapid manner of working during relocating or disassembling but also creates a cost savings as regards the need to repair the interlocking parts.

Even the storage is significantly simplified in the case of the interlocking parts designed in accordance with the innovation, especially if the profile tracks are designed to be symmetric in cross section about their vertical axis, as an advantageous embodiment of the innovation provides. When designed in this manner the interlocking parts consist of only one profile and only the lengths need to be selected to be different, as previously.

Moreover, the design of the sport floor covering in accordance with the innovation also signifies a significant simplification in the manufacture since the profile tracks, that now function as interlocking parts, can be manufactured, e.g., of aluminum in the extrusion method so that for their manufacture merely a cutting to length is subsequently required. The manufacture of the corresponding receiving grooves, that can be manufactured, e.g., with simple milling tools, is also very simple.

Further advantageous embodiments are characterized in the subclaims.

An exemplary embodiment of the innovation is described in detail in the following with reference made to the attached drawings.

Figure 1 shows a perspective view of a sport floor covering that can be disassembled and is designed in accordance with the innovation.

Figure 2 shows a partial top view onto the sport floor covering.

Figure 3 shows a cross section through the sport floor covering along line III-III in figure 2.

The dismountable sport floor covering shown in the figures consists of several bottom plates 1 placed so that they abut and consists of running- and pressure distribution plates 2 placed on then which plates 2 are placed offset to the butt joints, as figure 1 shows in particular. This known manner of placement achieves a quite stable composite [compound] that prevents bottom plates 1 from drifting apart from each other. Each bottom plate 1 rests with an elastic layer 3, that can be formed, e.g., from a foam, on a floor (not shown) of concrete, floor finish or the like. Another layer 4, e.g., of plastic, is fixed on the side facing running- and pressure distribution plate 2 on elastic layer 3. This layer 4 forms the support for running- and pressure distribution plate 2.

Running- and pressure distribution plates 2 are detachably connected to each other by interlocking parts designed in accordance with the innovation as profile tracks 5. Profile tracks 5 are arranged in such a manner that they run parallel to the butt edges of running- and pressure distribution plates 2. The longer profile tracks 5 are arranged in the longitudinal direction and the shorter ones in the transversal direction.

Each profile track 5 is formed from two flanges 6, 7 running parallel to the base of running- and pressure distribution plates 2 and arranged with an interval to one another. These flanges are connected to one another by web 8 standing at a right angle on them. Flange 7 of profile track 5, which flange faces bottom plate 1, comprises bend 9 on each of its two longitudinal

edges which bend faces in the direction of the other flange 6. Receiving grooves are provided in running- and pressure distribution plates 2 in the area of profile tracks 5 which grooves are adapted in their cross-sectional form to inserted profile tracks in such a manner that these tracks can be held in an interlocking [positive-locking] manner. In the present embodiment running- and pressure distribution plates 2 are secured against a vertical shifting against one another especially by flange 6 whereas a horizontal shifting is prevented by bends 9. Of course, flange 6 and bends 9 rest in the receiving grooves in an interlocking manner, as described.

A further advantageous embodiment of the innovation can be recognized in figure 3, in which flange 7 is arranged so that it terminates with its outer surface facing bottom plate 1 flush with the corresponding bottom of running- and pressure distribution plate 2. Of course, the associated receiving groove is correspondingly formed. As result of this measure, not only an evenness of the entire surface that is advantageous for the use of the sport floor covering is achieved but also the assembly of the sport floor covering is simplified. To this end a series of running- and pressure distribution plates 2 can be laid adjacent to each other in an abutting manner onto bottom plates 1 at first, then two running- and pressure distribution plates 2 can always be connected in the transversal direction by inserting a shorter profile track 5, whereas another series of running- and pressure distribution plates 2 is subsequently put on. The first and the second series of running- and pressure distribution plates 2 can now be

connected to one another by the longer profile tracks 5, that are thrust into the receiving grooves. It becomes clear that the fact that profile tracks 5 terminate with a flush surface with the bottom [underside] of running- and pressure distribution plates 2 makes a simple insertion of profile tracks 5 since the top of bottom plates 1 practically forms a guide surface.

Even a known manner of placement that arranges running- and pressure distribution plates 2 in rows and staggered relative to each other, as can be recognized especially clearly in figure 1, excellently prevents a slipping or shifting of running- and pressure distribution plates 2. It is advantageous to use rectangular plates. On account of the offset, appropriate plate blanks [cuts] must be provided in the wall junction area in order to assure to the full extent a lateral supporting of the sport floor covering on the wall.

CLAIMS:

- 1. Dismountable sport floor covering consisting of several bottom plates placed so that they abut, each with an elastic layer, and of runningand pressure distribution plates on the bottom plates which running- and pressure distribution plates are arranged staggered [offset] relative to the butt joints of the bottom plates, are detachably connected to each other by interlocking parts and are placed in rows offset relative to each other with longer interlocking parts running in the longitudinal direction and shorter interlocking parts running in the transversal direction, characterized in that each interlocking part consists of a profile track (5) formed from two flanges (6,7) running with an interval to one another and parallel to the base of the running- and pressure distribution plates (2) and connected to one another by a web (8) and that a bend (9) is provided on at least one flange (7) on each longitudinal edge which bend faces in the direction of the other flange (6) and that the running- and pressure distribution plates comprise two receiving grooves with a corresponding cross section into which grooves the profile tracks (5) can be inserted.
- 2. The sport floor covering according to claim 1, characterized in that the profile track (5) is designed to be symmetric in cross section about its vertical axis.
- 3. The sport floor covering according to claim 1, characterized in that the outer surface of the flange (7), which surface faces the bottom plate (1),

terminates flush with the corresponding bottom of the running- and pressure distribution plate (2).